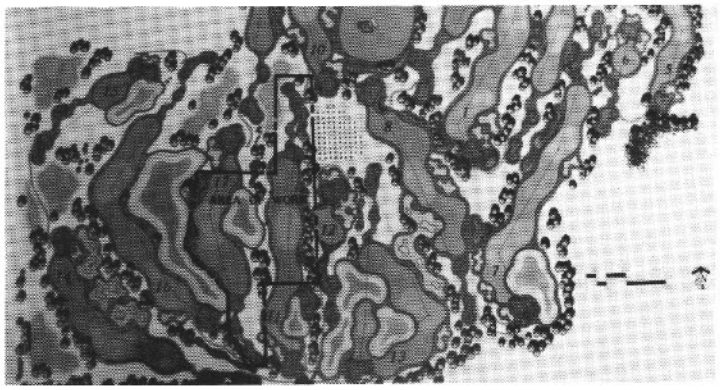
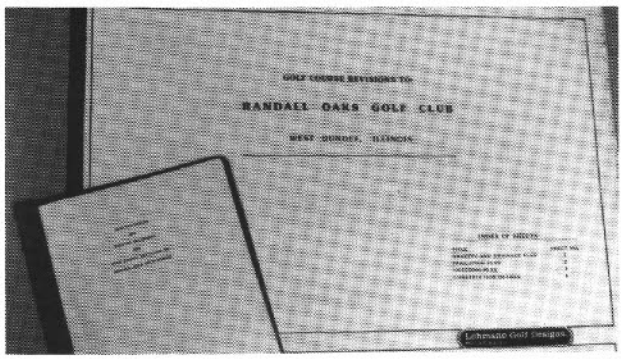
The soil mix was placed, and the No. 16 tee was sodded. Some finish grading is still required on the No. 11 tee. The fairway has been filled and finish graded. Work was stopped when the ground became frozen. However, a majority of the work had been completed. The remainder will be completed early this Spring. It's unfortunate, but little can be done about unexpected weather.

The success of this project was due to extensive planning, the fact that 18 holes were kept in play at all times, and that the golfers were well-informed before work began. The completed work looks great and has been well-received by all the regular golfers. They are anxious to play the revised golf holes and are excited about the future changes.

The thought of golf course renovation may sound intimidating and even terrifying to some members. But a well-planned project combined with thoroughly informed golfers will result in a successful renovation that produces exciting changes to an existing golf course.



Overall view of the course with the area of work well defined.



The Master Plan and specifications.

It's a dying shame

American elms grow in every state in the Union except Hawaii. It is the most-planted urban shade tree in the nation. This year 5 out of 10 trees that line our streets are going to die of Dutch elm disease unless something is done. The shame of it is that many people do not know it is happening. Others seem to think there is no hope.

Elm Research Institute has Elm Fungicide available to control the disease. It has proven to be 98% effective in the control of D.E.D. There is no cure at the present time. Dutch elm disease is a deadly fungus spread from tree to tree by a tiny beetle. It attacks the water conducting vessels of the tree which causes the tree to literally choke itself to death. And this is going to continue, unless something is done. You can get involved.

WHAT CAN YOU DO?

1. Learn the symptoms of Dutch elm disease. Brochures are available through Elm Research Institute.
2. Inject your tree with Elm Fungicide.
3. Plant a new disease resistant American Liberty Elm.

IDENTIFICATION.

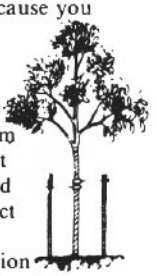
The symptoms of the Dutch elm disease are quite obvious. Flagging appears which is simply die-back of the foliage in certain areas. The foliage will begin to drop as it turns brown. If these symptoms do appear, call Elm Research Institute at 1-800-FOR-ELMS any time of day or night.

TREATMENT.

Elms, both healthy and diseased can be injected with Elm Fungicide. The treatment is simple to administer,and less expensive than dinner-for-two at a good restaurant. It can be done effectively by the concerned citizen, and requires a half hour of work to set up the equipment. Contact Elm Research Institute for information on Elm Fungicide and injecting equipment. Information is also available on starting volunteer groups for injecting neighborhood trees. With a regular injecting program you can control this dreaded "cancer of the plant world".

REFORESTATION.

For every elm that dies a new replacement tree must be planted. Elm Research Institute has developed, a disease-resistant, American Elm called the Liberty tree. And because you want the majestic vase shape of our beloved American elm, you should replant with the American Liberty Elm which can give you a fast growing tree of unrivalled beauty and grace. Contact Elm Research Institute today for more information about how you can get involved.



ELM RESEARCH INSTITUTE
HARRISVILLE, NH 03450
1-800-FOR-ELMS
OR

(Your Company Name Here)

Yes, I am concerned about the fate of the American Elm. Please send me more information.

Name _____

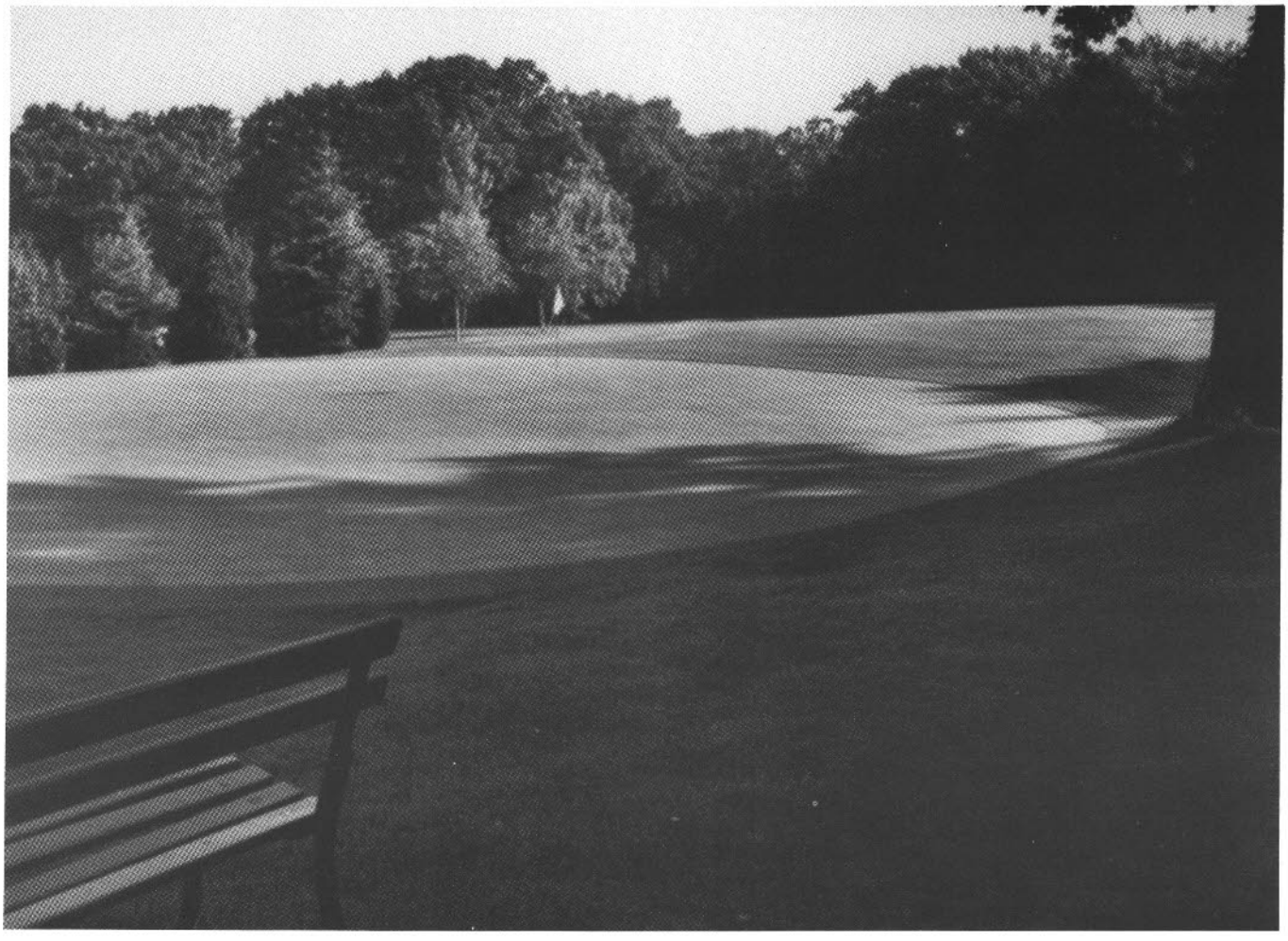
Address _____

_____

I would especially like more information about:

_____

OLDS



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So whether you're seeding bluegrass, bentgrass, or need a custom blend, you'll find all your seed at Olds.

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WISCONSIN (?) BLUEGRASS

By Monroe S. Miller

I envy Kentucky. They are known around the world for the most beautiful turfgrass growing anywhere on this celestial sphere. They are the "Bluegrass State." It's petty to be jealous, but deep down I really wish Poa pratensis L. was commonly known as "Wisconsin Bluegrass". What a claim to fame that would be!

It is a fact that this, and only this, grass could inspire such envious emotions. I feel about bluegrass like John James Ingalls felt, many years ago. He was a Senator from Kansas from 1873 to 1891. An extremely eloquent man, he gave an address that appeared in the Kansas Magazine in 1872 that I have seen quoted any number of times in the literature. Seldom have I read more lofty words on any topic, let alone on turfgrass. It was entitled "In Praise of Blue Grass". Mr. Ingalls had an almost romantic feeling about bluegrass and expressed those feelings like no one ever has:

"One grass differs from another grass in glory. One is vulgar and another patrician. There are grades in its vegetable nobility. Some varieties are useful. Some are beautiful. Others combine utility and ornament. The sour, reedy herbage of swamps is baseborn. Timothy is a valuable servant. Redtop and clover are a degree higher in the social scale. But the king of them all, with genuine royal blood, is BLUE GRASS. It has heredity title to imperial superiority over all its humbler kin."

Nowhere does Mr. Ingalls in his narrative of well over a thousand words about bluegrass refer to it as "Kentucky Bluegrass". He, in fact, calls it "the final triumph of nature, reserved to compensate her favorite offspring in the new Paradise of Kansas." Would it be surprising that Mr. Ingalls, had the thought occurred to him, likely have christened it "Kansas Bluegrass"? Not at all. And I would argue that Wisconsin easily could lay claim to the common name of "Wisconsin Bluegrass".

As settlement in our country moved west and over the Appalachian Mountains, Poa pratensis moved along with explorers, travellers and settlers. What they found as they moved into the region of Kentucky were forests interspersed with large open meadows. Bluegrass was not mentioned as a plant growing in these meadows, but such large open areas greatly aided the early distribution of it, once it was introduced.

Poa pratensis prefers heavy well-drained soils and a soil pH above 5.0 but below the neutral of 7.0 mark. It has relatively high water requirements when actively growing, as well as comparatively high fertility requirements, especially high levels of phosphorus. It is best adapted to productive soils of limestone origin. It is uncanny to measure these requirements against soils found in the famous bluegrass section around Lexington, Kentucky. The Maury-Hagerstown soil areas of this region have phosphatic limestones as parent materials. They are dominantly heavy textured with a high content of mineral plant nutrients and organic matter. They are medium to strongly acid in reaction. They are easily penetrated by air and water, which favors Poa pratensis since this grass does not do well on compacted or poorly drained soil. The annual precipitation of the area is 43".

Are the pieces to this puzzle beginning to fit? Open meadows, a grass that is aggressive in spread and prolific in seed production, the right climate and an ideal soil condition all lead us to see and understand the distribution, establishment and prosperity of bluegrass in Kentucky. Even that state's proximity to exploration and settlement helped.

And there are more reasons why bluegrass became so popular and predominant in Kentucky. Early farmers believed this grass was as good as corn for a source of protein for their livestock and opted for buying corn rather than plowing bluegrass fields and pastures to plant it. Bluegrass was simply more valuable. It was a permanent pasture feature in Kentucky and they found it more profitable than a grain and hay type of farming. We shouldn't be surprised that the first substantial seed production of Poa pratensis for sale took place in Kentucky, adding yet more evidence to how their state's name landed in front of bluegrass.

My search into the heritage and history of Kentucky Bluegrass revealed two very major and significant facts. The first is that Poa pratensis has a multiplicity of common names and Kentucky Bluegrass is only one of nearly 30 that I found. The farm I was raised on in Grant County had predominantly bluegrass pastures and my father referred to the grass as "junegrass". Peter Miller, during the time I worked for him at Nakoma while a student at the UW-Madison, also used the common name "junegrass" for what is most often now called Kentucky Bluegrass. Tracking the history is complicated by all of these common names. The second and maybe more important revelation is that Poa pratensis is not native to Kentucky or America or even North America.

There have been mild differences of opinion over the years on this question. There is no dispute, however, the Poa pratensis is a plant native to Europe and Asia. Couple this with the established fact that few plants (or animals, for that matter) are indigenous to both the Eurasia and North America and the conclusion that Poa pratensis was introduced after the discovery of America is hard to dispute or refute. My former Assistant, Tom Parent, claims that the geologic theory of plate tectonics could be evidence supporting an opinion of native residence of Poa pratensis, but he loves to argue with me (he always loses!) and I've dismissed his theory. Obviously the plant was introduced into our country from Europe in the 1600's by the early colonists.

Journals and letters written by the earliest American explorers back to their homes in the Old World make no reference to any grasses they recognized and give no clues that Poa pratensis was found growing here in the U.S. As immigration increased, set-

tlers undoubtedly brought seed from home to sow here. Best guess is that "English Bluegrass" came over in a mixture of pasture seed.

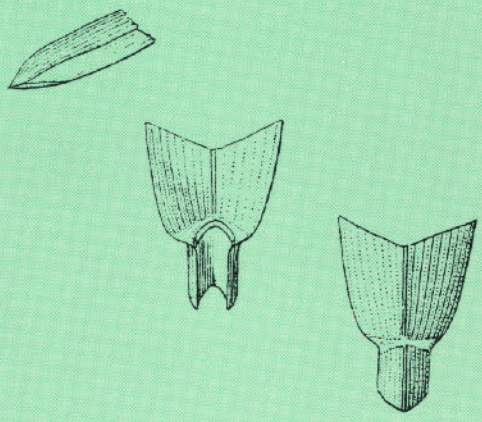
Poa pratensis found the climate and the soil of the Northern states hospitable and it spread rapidly in New England and along the Atlantic Coast. That spread and subsequent prosperity are probably why its origin was even questioned. Writings, journals and almanacs of the 1700's and early 1800's make frequent references to English grass, meadow grass and several other common names of Poa pratensis.

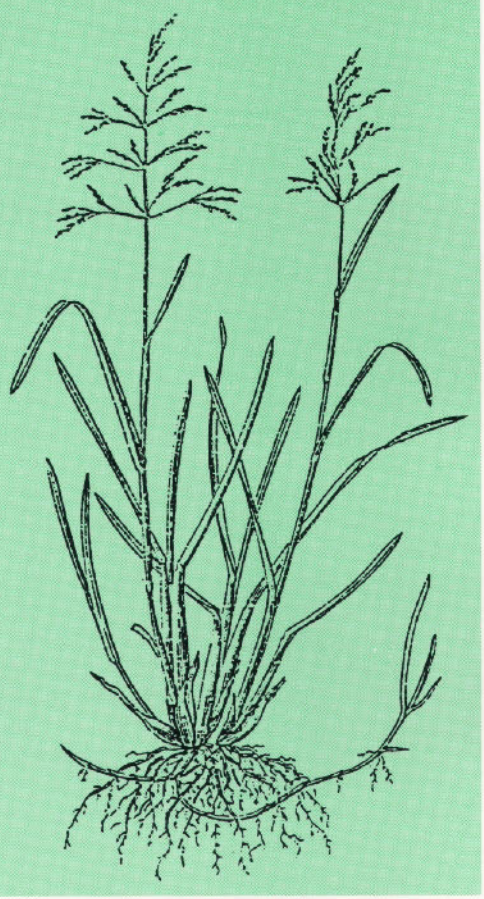
A lot of time in the library has given me a clarity of understanding how and why Poa pratensis became known as Kentucky Bluegrass. But I'm still jealous, especially because our Badger State could have been home and host to this grass with such "imperial superiority." We have the soils, the climate, the open meadows, the topography. We missed because of our location - if only Daniel Boone had gone northwest instead of west. . .

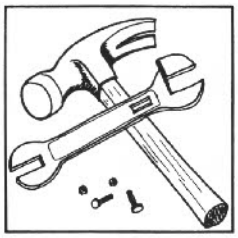
But if I'm disappointed, that disappointment pales in comparison to what Rhode Islanders should feel. One of the first common names of Poa pratensis was "Rhode Island grass." They had it in their grasp and let it slip away. All they lacked was a promoter like me or like Senator Ingalls.

I suspect my campaign for Wisconsin Bluegrass will remain very limited and find little support, even here at home. That may give me time to find out why, with such a vivid and intense green color, it is called "Bluegrass".

Hey, I've got an idea! Let's rename it "Wisconsin Greengrass"!







Mower Grinding—

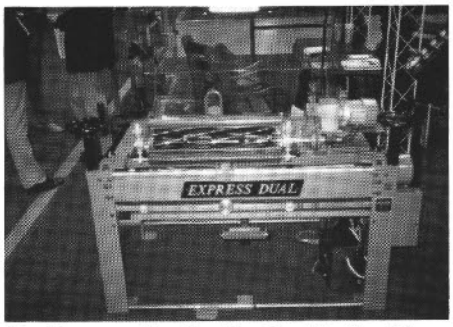
"Spin Grind It" or "How Do You Spell Relief"?

By Pat Norton

A hot topic in golf course maintenance circles this winter seems to be reel and bedknife grinding. In fact, those who attended the GCSAA Phoenix tradeshow might well have noticed the increased attention that the Neary, Foley-Belsaw, and Express Dual displays were receiving. Express Dual especially seemed very crowded and busy. They had some very revolutionary grinding equipment on display and had almost more potential customers and distributors around their display than they could handle. There is no doubt that the advent of the spin grinder has created a lot of controversy on a subject that formerly was very mundane and boring. Both nationwide and here in Wisconsin, reel grinding is suddenly a hot topic. Most WGCSA members that I've talked to have a definite opinion on grinding. It seems that there's a real lack of understanding of the spin grinding concept, even among the relief type grinder manufacturers. Needless to say, reel grinding is no longer boring to talk about, just repetitive and boring when you have to do it day after day.

So, let's talks about grinding-conventional relief vs. spin grinding, high initial cost of the spin equipment vs. long term labor and equipment wear savings, and lastly some reports from individuals who have experience with spin grinding.

Conventional relief grinding is the old tried and true method. Everybody knows, or should know the principles behind relief grinding. Foley-Belsaw does now make a spin grinder, but mainly still advocates relief grinding. Their explanation of the principles of relief grinding is a good one. They basically say that minimal contact between reel and bedknife is achieved by grinding two different angles on each reel blade, the relief grind (usually about 60% of the blade width) and the face grind or "land area" (usually about 40% of the blade width). "Zero clearance" between the reel and bedknife should result when relief grinding (or spin grinding) is done properly.



The Express Dual is the "cadillac" of the spin grinders, but carries an expensive price tag.

With relief grinding, backlapping is necessary to keep mowing units in good cutting condition once the season is underway. As the reel is turned backward, a metal grit compound is brushed on the reel. The grit compound, along with the contact between the dulled reel and bedknife removes a small amount of steel on both cutting surfaces, returning both surfaces to a sharp cutting edge once again. Relief grinding does allow easy lapping, while with spin grinding backlapping is taboo-once you backlap a spun ground reel you destroy any relief angle that the reel has had ground into it. (Express Dual claims that 2° relief is ground into each blade.) Backlapping the spun ground reel leaves the whole blade thickness dragging flat across the bedknife, making quality cutting very hard to achieve. By the way, personal experience has taught me that lapping a spun ground reel just doesn't work. This very thing happened with our new Ransomes 213D cutting units in 1985 - we tried to lap them and thereafter were lapping them quite often with poor results. Spin grinding advocates say that the correct procedure is to take that dulled reel, quickly resharpen on the spin grinder (usually about 30 minutes floor to floor) and don't ever lap again.

Spin grinding is a very misunderstood concept. Express Dual, (manufactured by Bernhard and Co. of England), is easily the best known and best made of the spin grinders. They have a very solid, well engineered series of grinders-on this there shouldn't be any argument. The argument enters the picture when the basic concept of spin grinding is debated-most superintendents still believe in relief grinding and have had experience similar to mine. They have bought new mowers with spun ground cutting units, had them dull with wear, tried to lap them, realized that lapping doesn't work and come to the conclusion that spin grinding is a bunch of bull.

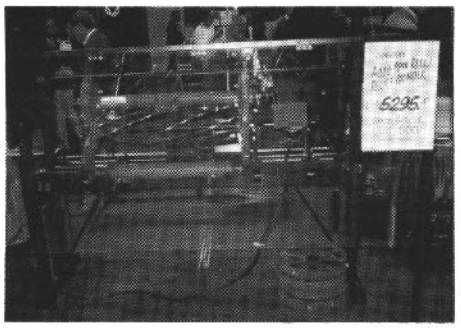
Most superintendents (or course managers) still maintain that relief grinding is the best and proper way to grind, but a modified use of the spin grinder is now pretty much accepted by superintendents, grinder distributors, and grinder manufacturers such as Foley-Belsaw. They maintain that a spin grinder is useful only for grinding the reel perfectly cylindrical and taking out any conical shape, then putting a relief back grind on with a line grinder. So there is at least some validity to the spin grinding concept.

But is there validity to the point of using spin grinding as your only grinding method? After some discussion and research with both the advocates and naysayers, I'll sit on the fence and say that you need to decide for yourself. Reinders Brothers Inc. and Ed Devinger are firm believers in spin grinding and can cite many examples of spin grinding success, as could Express Dual representatives at the GCSAA tradeshow. On the other hand, Brian Larson, service manager at Wisconsin Turf Equipment, states that they have purchased a Foley spin grinder soley for grinding reels into a true cylinder. They follow this with relief backgrind, however, as their experience has been shortened grind life with spun ground reels.

Spin grinding is gaining at least a few converts, however. Madison's local spin grinding experts are Randy Smith and Charlie Frazier at Nakoma Golf Club. They have had an Express Dual for almost two winter seasons now and report that they are impressed. For them spin grinding saves considerable in-season downtime (They don't need to resharpen as often as they once had to relap.), improves employee winter-morale considerably, and virtually eliminates the need for backlapping. And, with the popularity of lightweight fairway mowing and multiple units, using spin grinding to keep mowers sharp and cutting well makes even more sense.

Smith and Frazier (sounds like the

name of a gun, doesn't it?) also report no incompatibility problems between their Express Dual reel grinder and their Foley auto traverse bedknife grinder. That's interesting in that I was convinced by the Express Dual rep at the tradeshow that my new Foley bedknife grinder was probably not accurate enough to be used in tandem with their Express Dual grinder. Was this guy trying to sell me a new grinder, or what?



The Foley Accu-Spin Grinder is designed for both spin and relief grinding.

Initial cost of the Express Dual and the Neary are about the same, around $9000, while the Foley spin grinder is priced considerably less, around $5700. With any of these grinders, either the economical Foley or the quality-built Express Dual, the justification for the high purchase price is the long-term labor and equipment wear savings. The Express Dual computer analysis that I completed (one with Steve Barritt from Reinders and one at the tradeshow) both showed annual savings of around $2500 in the areas of sharpening time, backlapping time, lapping compound cost, extended bedknife life, extended reel life, extended bearing life, and less teardown and unit inspection time. So, assuming that my bedknife grinder is in good shape, I only need buy the real grinder. Simple division shows that my grinder pays for itself in less than four years. After four years this grinder saves my operation quite a bit of money, hassle and the frustration of constantly lapping mowers. The high initial cost has definitely frightened off some superintendents, but if you're sold on the concept then your decision to go with the Express Dual becomes an easy one.

Before doing this article, I really had my doubts about spin grinding. For the years that I've been grinding reels relief grinding has always worked just fine, or has it? What about all the time spent lapping tee, green, and collar mowing units (the interval between lappings always seemed to get shorter as the season wore on). And what about all the fairway and rough mowing units that needed lapping or sharpening by July or August, but couldn't be touched because there just wasn't time to do it?

Consider changing over to spin grinding. The soundness of the theory is good, the quality of the grinder is excellent (especially the Express Dual), and the benefits are definitely there-if the program is carried out to the letter. Check it out fellas, and do some homework on it-you might just find yourself becoming a convert to spin grinding.

Wisconsin Golf Course Superintendents Association
1987 Education Program

Once again, Carl Grassl has done an outstanding job in putting together our 1987 Educational program. Note these dates on your calendar.

Date	Location	Topic/Speaker
January 19 (Monday)	Travelers Inn Fond du Lac, WI.	Board Meeting
March 23 (Monday)	Travelers Inn Fond du Lac, WI.	Business Meeting
April 27 (Monday)	Janesville Riverside C.C. Janesville, WI.	Spin Grinding/ Steve Bernhard
May 18 (Monday)	Reedsburg Country Club Reedsburg, WI.	Winter Overview/ James Latham, USGA
June 15 (Monday)	Brown County Golf Course Oneida, WI	Pre-Emergent Herbicides Dr. Bruce Augustin
July 13 (Monday)	Lake Wisconsin C.C. Prairie du Sac, WI.	Aquatic Weed Control/ Scott Seymour
August 17 (Monday)	Bull's Eye Country Club Wisconsin Rapids, WI.	New Design Concepts/ Dick Nugent
September 14 (Monday)	Mascoutin Country Club Berlin, WI.	Golf Reporter/ Rob Shultz
October 12 (Monday)	Deer Run Country Club Brillion, WI.	Relief Grind/ To Be Announced
November 2 (Monday)	Travelers Inn Fond du Lac, WI.	Business Meeting
December 7 (Monday)	Travelers Inn Fond du Lac, WI.	Board Meeting

January	1987	Wisconsin Turfgrass Association - Seminar
March	1987	Golf Design Seminar
August	1987	Wisconsin Turfgrass Association - Field Day
October	1987	Rules of Golf Seminar
October	1987	Wisconsin Golf Turf Symposium

Certified Golf Superintendents can gain CEU credit through attendance at monthly meetings and educational programs.

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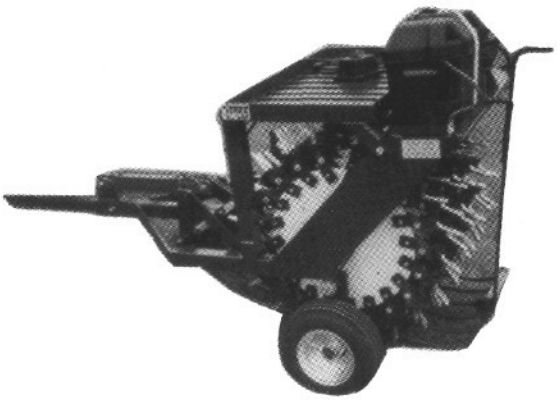

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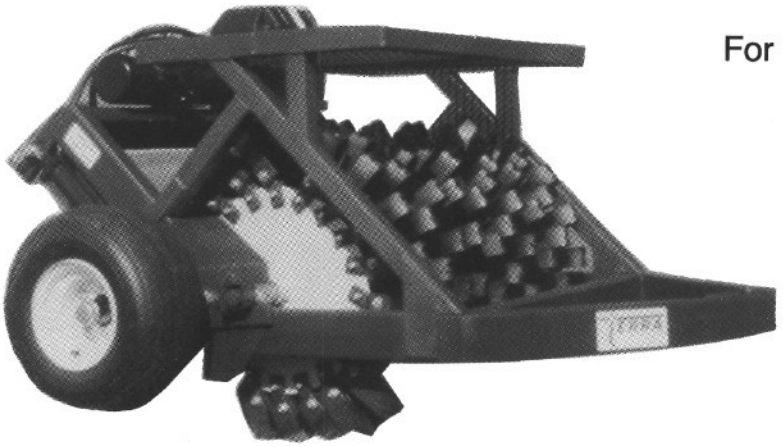

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When DO Wisconsin Golf Courses Open?

OPENING DAYS!

By Rod Johnson

This year's exceptionally mild winter and a record breaking lack of snow cover spark thoughts of an early golf season. A quick survey of 7 Wisconsin Golf Clubs was made regarding opening dates over the last ten years. Incomplete records and Superintendents changing jobs resulted in a shortage of information from 1976 and 1977, but none the less results are interesting.

1981 was the earliest golf season in the 10 years surveyed. Maple Bluff, Madison, recorded the earliest opening date of March 26, 1981. Sandwiched around the 1981 early season were the late openings of 1980 and 1982. Pine Hills lays claim to the latest opening date with April 24, 1982.

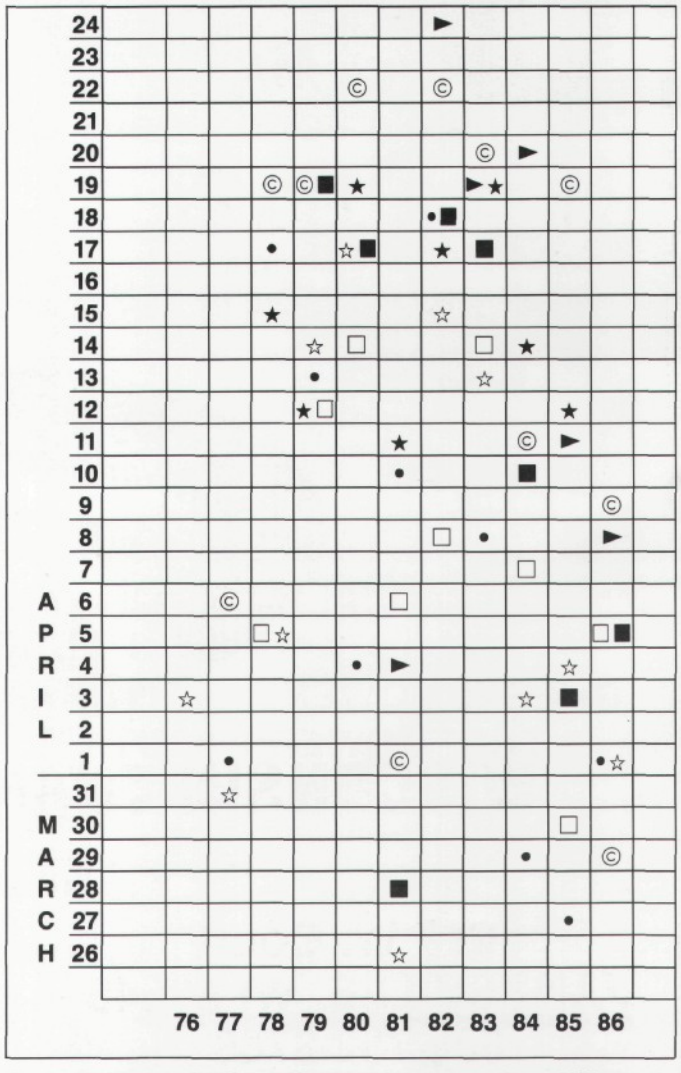
Before you sharpen your cup cutter and get ready to stick out the flags, note that of the 62 reported opening dates only five are in March. An average of the reported dates is April 10th, so hang tight. It's like a wise neighbor Superintendent told me a few years ago, "April 15th, give or take a week."

1976		
April 3	Maple Bluff	
1977		
March 31	Maple Bluff	
April 1	Ozaukee	
April 6	North Brook	
1978		
April 5	Stevens Point	Maple Bluff
April 15	North Shore	
April 17	Ozaukee	
April 19	North Brook	
1979		
April 3	Ozaukee	
April 12	North Shore	Stevens Point
April 14	Maple Bluff	
April 19	North Brook	West Bend
1980		
April 4	Ozaukee	
April 14	Stevens Point	
April 17	Maple Bluff	West Bend
April 19	North Shore	
April 22	North Brook	
1981		
March 26	Maple Bluff	
March 28	West Bend	
April 1	North Brook	
April 4	Pine Hills	
April 6	Stevens Point	
April 10	Ozaukee	
April 11	North Shore	
1982		
April 8	Stevens Point	
April 15	Maple Bluff	
April 17	North Shore	
April 18	West Bend	Ozaukee
April 22	North Brook	
April 24	Pine Hills	
1983		
April 8	Ozaukee	
April 13	Maple Bluff	
April 14	Stevens Point	
April 17	West Bend	North Shore
April 20	North Brook	

1984		
March 29	Ozaukee	
April 3	Maple Bluff	
April 7	Stevens Point	
April 10	West Bend	
April 11	North Brook	
April 14	North Shore	
April 20	Pine Hills	
1985		
March 27	Ozaukee	
March 30	Stevens Point	
April 3	West Bend	
April 4	Maple Bluff	
April 11	Pine Hills	
April 12	North Shore	
April 19	North Brook	
1986		
March 29	North Shore	
April 1	Maple Bluff	
	Ozaukee	
April 5	West Bend	
	Stevens Point	
April 8	Pine Hills	
April 9	North Brook	

KEY

☆ = Maple Bluff
© = North Brook
★ = North Shore
• = Ozaukee
► = Pine Hills
□ = Stevens Point
■ = West Bend



Connect the dots for the golf course in your section of Wisconsin and note the variability!

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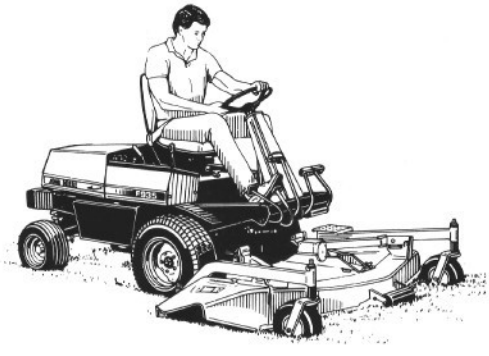

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